



Aircraftsman

CORPUS CHRISTI ARMY DEPOT

Blade balance stands are state-of-the-art at depot

by Ray Reeves (a.k.a. "Dr. Balance")
Directorate of Engineering Services

The Corpus Christi Army Depot's (CCAD)

helicopter main rotor blade balance stands are some of the most powerful, high tech, state of the art, test facilities owned and operated by the Department of Defense. They are better known as whirltowers throughout the helicopter industry. There are currently only eight whirltowers in production in the United States including

CCAD's facilities. These facilities give CCAD the capability to balance and test virtually every main rotor blade in the Army's inventory. CCAD's broad range of production balancing capability far surpasses that of any private corporation or government facility in the helicopter blade balance industry.

Helicopter main rotor blades are statically and/or dynamically balanced

to minimize vibration and field adjustments and to insure that all the blades in the aircraft are flying in the proper track and relationship to each other. Two production rotor-blades are dynamically balanced on the stand against a certified master blade. The balance stand's computerized tracking system tells the operator where and how much to adjust the production



CCAD's whirltower #1 is seen at the start of a blade balance process. The whirltower was relocated from New Cumberland Army Depot, PA in 1983 after the CH-47 repair/overhaul facility closed and the workload transferred to CCAD. In 1990, CCAD engineers designed and manufactured special adapters to accommodate UH-60 blades.

blades until they are balanced and flying in track. The Army's UH-60 Blackhawk helicopter incorporates a quick change blade design. This design enables the flight crew to change out a damaged set of blades instantaneously allowing the aircraft to return to its' mission. CCAD dynamically balances an average of 65 UH-60 blades per month.

CCAD's blade balance stand #1 was designed by the Boeing Corporation and

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Army aviation's 20th year is theme for annual convention

The Army Aviation Association of America held its annual convention in Ft. Worth on Apr. 9-12. The convention saw both government and private industry come together to display and share their knowledge, ideas and technology on army aviation in their

exhibit hall booths, briefing areas and at the professional sessions held in the main convention center. Topics ranging from PERSCOM career guidance to unmanned aerial vehicles and the different aircraft projects were briefed by general officers, top enlisted, and civilians in the aviation branch, and private industry representatives.

The CCAD display booth, manned by Loretta Zarate and Tammy Tuttle from the directorate of production management and Andy Anzaldua from the directorate of quality assurance saw a

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LARS completes training and other depot events



Col. Jim Budney, CCAD commander (standing), talks to logistics area representatives (LARS) who have recently completed training through the CCAD-AMCOM LARS-U. Budney asked the LARS assembled for feedback on the program and was given the following comments: Jonathan York from AMCOM said "This training was very beneficial; I wish I had had this when I first hired on." Joseph Lizama, also with AMCOM said it will now be easier to explain to the customer in the field what is involved in getting aircraft through the overhaul/repair/maintenance process at the depot. Shown in the photo above are (clockwise from left) Budney; York; CW3 Ed Adams, CCAD Training with Industry; Lizama; CW3 Daniel Loomis, CCAD Training with Industry; Cleveland O. Rogers, AMCOM; and Michael Johnson, LARS-U instructor from AMCOM. Not visible in photo, but also present was George T. Matthews from AMCOM. Look for an update on the LARS-U in a future issue of the *Aircraftman*.



LTC Dan Cutshall (l), National Bureau Liaison at AMCOM visited CCAD on Apr 15 for a depot orientation. Larry Jobe, CCAD chief of staff (c), hosted Cutshall while Dennis Collins (r), from the directorate of industrial risk management acted as guide on a tour of the facilities.

MG Larry Dodgen (standing), commanding general, AMCOM, paid a return visit to CCAD on Apr. 15 and received briefings on CCAD workload status. During the visit, Dodgen met with CCAD managers at the hangar 44 conference room. Questions on training, conversion of temporary employees to permanent status, and problems with parts acquisition were raised by some of the attendees. Dodgen told the managers he will look into solving the problems that are deterrents to production.



Mr. Ed Augustine (4th from left in photo), from the Office of the Secretary of Defense and a party of five visited CCAD on Tue. for a depot tour and orientation. Shown in photo are (l-r, clockwise) Joseph Tappel, AMC Industrial Base Activities; Mike Fitzpatrick, AMC G3; Richard Allen, office of management and budget; Augustine; Col. Jim Budney; Kresten Cook, deputy to the commander, CCAD; and Martha Gabriel, Department of the Army. The visitors received the command briefing, along with briefings on Lean initiatives in practice at CCAD, and partnerships with private industries.

CCAD represented at annual AAAA convention

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lot of traffic during the three days of the convention.

Also attending the convention from the Corpus Christi Chapter of AAAA were COL Jim Budney, Kresten Cook, deputy to the commander; Al Gonzales, director of production management; Kathy Clawson, directorate of engine production; Joe Caines, directorate of components production; Jerry and Charmaine Wade (Wade is a former CCAD director of maintenance now with McTurbine, Inc.); Joe and Ellie Guzman (Guzman is former CCAD director of engine production, now also with McTurbine, Inc.); Juan dela Cruz,



photo by Lois Contreras

Col. Harry Townsend, USA (Ret.) (l) stops by the CCAD display booth to talk with Loretta Zarate from the directorate of production management's business development and marketing office (right foreground) during the AAAA annual convention in Ft. Worth held Apr. 9-12. Also pictured are Tammy Tuttle from the special projects office (2nd from left) and Andy Anzaldúa from the directorate of quality assurance (2nd from right).

CCAD retiree; and CW4 Jimmy Johnston, USA (Ret.).

In addition to viewing the new aviation technology now available and sitting in on briefings by professionals in the aviation field, the social side of the convention offered a chance to visit with former CCAD commanders. MG (Ret.) Charles Drenz (Jun 77-Jun 79); Col. (Ret.) Tom Walker (Jun 84-Dec 86); Col. (Ret.) Tom Johnson (Aug 91-Aug 93); Col. (Ret.) Dave Fowler (Aug. 93-Aug 95); and Col. (Ret.) Mitch Dockens (Jul. 99-Jul. 01) were also in attendance and send their regards to CCAD.

CCAD employees show support of family members serving in Operation Iraqi Freedom



Support of family members serving on active duty is clearly evident among CCAD employees. Gracie Ramos from the directorate of engineering services wears a yellow ribbon with her son, Pvt. Nick Moreno's name on it. In the photos above, Guillermo Suarez, is seen sporting a tee shirt with "Operation Iraqi Freedom" emblazoned on the front (photo at left) and the back depicting our U.S. flag with pictures of his nephew, Spec. Gilbert Suarez who is serving with the USA 159th Aviation Regiment, Task Force 2-6 in Kuwait (l) and two brothers, Sgt. Enrique Suarez with the 101st Airborne Division (c), and Sgt. Gilbert Suarez (r), with the words "Proud of our loved ones serving in the armed forces" in red, white, and blue below the flag. Spec. Suarez is the son of CCAD employees Gracie Suarez in the directorate of engineering services and Sgt. Gilbert Suarez who works in the directorate of manufacturing/ process production when not on active duty status with the U.S. Army Reserves' 453rd Transportation Company.

**If you have a family
member or co-worker
who is currently serving
in the armed
forces, contact PAO to
have photo posted.**



CCAD Wall of Honor - Gracie Ramos (left) posts photos of CCAD employees whose USAR units have been activated and deployed in support of Operation Iraqi Freedom on the CCAD display board located near the Branding Iron in Bldg 8. Gracie's son's photo is partially seen in top left. If you have a family member or co-worker who is currently serving in the armed forces, contact PAO to have photo posted.

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Laurence J. Nespodzany (l), from the directorate of engine production's T700 engine compressor branch, received his ten-year length of service certificate and pin from Joe Herrera director of engine production (r), on Apr 14.



Commander's Medallion Award – Brian Samuelli (l) accepts an award from MG Larry Dodgen, commanding general, U.S. Army Aviation and Missile Command during the general's visit to CCAD on Apr 15. Samuelli was recognized for his work as cross service/depot maintenance interservice agreement lead. The letter from Dodgen read in part: "Such recognition is a tribute to your commitment to excellence and to the professionalism of this command." Samuelli told his co-workers "I didn't accept this award for myself, but for everyone else who worked with me on this project. You did the work; I just helped point you in the right direction."

Whirltowers are two of eight in U.S.

(*"Whirltower" continued from page 1*)

built in the early 70's at New Cumberland Army Depot in Pennsylvania. It was relocated to CCAD after the CH-47 (Chinook) repair and overhaul facility closed in 1983 and the workload was transferred to Corpus Christi. The balance stand was originally relocated to support the CH-47C main rotor blade program. The requirement was eliminated with the introduction of the new style CH-47D main rotor blade. CCAD's equipment engineering branch performed a functional test and verified the capability to balance the CH-47D rotor-blades per Boeing specifications. However, CCAD is not yet balancing CH-47D rotor blades pending full authorization to begin a program. The Boeing Corporation is currently the only authorized source for balancing CH-47D rotor-blades.

CCAD's equipment engineering branch designed and manufactured special adapters for blade balance stand #1 in 1990. These adapters gave CCAD the capability to balance Sikorsky's UH-60 Blackhawk main rotor-blades. In 1996, CCAD designed and manufactured universal adapters to balance SH-60 (Seahawk), UH-60 and CH-47D main rotor-blades as part of a modernization project. In 1998, CCAD implemented a design and modernization plan to upgrade the upper drive-train, blade actuating system, computer and related components to improve the safety, maintainability and reliability of the balance stand. This project is currently in work in CCAD's manufacturing and process shops. Blade balance stand #1 gives CCAD the capability to balance Sikorsky's H60 main rotor-blades and all main rotor-blades manufactured by the Boeing Corporation. Blade balance stand #1 is currently in full production for UH-60 and

SH-60 main rotor-blades.

CCAD's blade balance stand #2 was designed by the Sikorsky Corporation and built in the early 80's at the Pensacola Naval Depot in Florida. This balance stand is similar to Sikorsky's research and development stand in Straford, Connecticut. The Navy helicopter repair and overhaul facility in Pensacola was closed by BRAC '95. CCAD justified and secured the funding to relocate the balance stand to Corpus Christi to enhance and expand the rotor-blade production balancing operation of the depot. The balance stand was completely overhauled and modernized with state of the art equipment and computer systems during its relocation to CCAD. Blade balance stand #2 gives CCAD the capability to balance H53, H-60, H-3 and all main rotor blades manufactured by the Sikorsky Corporation including the new RAH-66 Comanche blades. Blade balance stand #2 has been in full production for UH-60 and SH-60 main rotor-blades since 2001.

The most time-consuming repair procedure of a helicopter main rotor blade is not the balancing of the blade, but the numerous inspections and repair processes that are required before dynamic balancing begins. Blade balance stands #1 and #2 can produce up to six H-60 main rotor-blades per stand in an eight-hour shift and the shop is working three back to back shifts. CCAD has the potential to dynamically balance over 30 blades in a 24-hour period, but has an average monthly schedule of only 65 H60 blades. CCAD welcomes the opportunity for military planners to assign new programs to CCAD to dynamically balance various Sikorsky and Boeing main rotor-blades. CCAD has the dynamic balancing resources and we are ready for the workload!

Directorate of Resource Management

Length of Service

Guy Richart - 30 years

Greg Vera - 20 years